Canada-Saskatchewan Agreement on Soil Conservation

1990-91 Annual Report

Foreword from the Responsible Officers

Please find enclosed the second annual report of the Canada-Saskatchewan Agreement on Soil Conservation. This report covers the period from April 1, 1990 to March 31, 1991.

The ability to sustain Saskatchewan's agricultural productivity in the years ahead will depend on how well we protect and care for our soil. In recognition of this, the governments of Canada and Saskatchewan signed the Canada-Saskatchewan Accord on Soil and Water Conservation and Development on June 30, 1989 — part of the National Soil Conservation Program, a Canada-wide initiative.

On July 13, 1989, Agriculture Canada and Saskatchewan Agriculture and Food signed the $54 million Canada-Saskatchewan Agreement on Soil Conservation — the first agreement under the accord. Each government is contributing $27 million to this initiative.

Many important programs and activities were continued in 1990-91 which will help this short term initiative achieve a long-term impact. A comprehensive set of programs has been established, involving information and technology transfer, land use adjustment, soil inventory and monitoring, research and development, and the application of soil conservation technologies at the producer level.

An important soil conservation effort in Saskatchewan has continued in 1990-91 as a result of the cooperative actions of producers, conservation groups and governments at all levels. As the responsible officers representing Agriculture Canada and Saskatchewan Agriculture and Food, we are pleased to present the second annual report of the Canada-Saskatchewan Agreement on Soil Conservation, and to report progress made from April 1, 1990 to the March 31, 1991.

R. J. Wettlaufer, Co-Chairman
Agreement Management Committee
Prairie Farm Rehabilitation Administration
Agriculture Canada

John Buchan, Co-Chairman
Agreement Management Committee
Soils and Crops Branch
Saskatchewan Agriculture and Food

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Introduction

The Canada-Saskatchewan Agreement on Soil Conservation is a $54 million initiative of the governments of Canada and Saskatchewan. This annual report covers the second year of the initiative, from April 1, 1990 to March 31, 1991.

The aim of the agreement is to encourage practices which conserve Saskatchewan's soil resource and sustain its long-term productivity, recognizing soil capability and practical economic limits.

The Agreement brings producers and soil conservation specialists together to exchange information on soil conservation techniques

To achieve this aim, the agreement pursues the following objectives:

- to reduce soil degradation on farms and crown land, maintain and enhance soil productivity through land use changes, and reduce the off-farm impacts of degradation
- to expand the knowledge of soil conservation technology and extend this information to farmers
- to foster a long-term soil conservation ethic among farmers and the general public to increase support for the protection of the soil resource, and to encourage early adoption of soil conservation practices by farmers
- to enhance economic diversification, where applicable, within the context of effective soil conservation

Activities initiated in 1989-90 were continued and expanded in the second year of the Canada-Saskatchewan Agreement on Soil Conservation.

Administration of the Agreement

The Canada-Saskatchewan Agreement on Soil Conservation is administered by the governments of Canada and Saskatchewan.

Each government is contributing $27 million to the three-year initiative. The Director General of the Prairie Farm Rehabilitation Administration (PFRA) of Agriculture Canada is responsible for federal programs under the agreement. Provincial programs are the responsibility of the Deputy Minister, Saskatchewan Agriculture and Food.

Management Committee

The Director of the Prairie Farm Rehabilitation Administration (PFRA) Conservation Service is responsible for federally-delivered programs, and the Director of the Soils and Crops Branch of Saskatchewan Agriculture and Food is responsible for provincially-delivered programs. These two officers co-chair the six-member Management Committee that was established to carry out the terms and conditions of the agreement.

Other federal representatives to the Management Committee include a pedologist of the Saskatchewan Institute of Pedology Soil Survey Unit representing the Research Branch, Agriculture Canada, and the Senior Development and Assessment Officer of Western Economic Diversification Canada.

Provincial representatives on the Management Committee include the Manager of the Agriculture Development Fund, and the Executive Director, Agricultural and Community Development Services, Saskatchewan Rural Development.

Implementation Committee

The responsible officers also established an Implementation Committee to provide working level support to the Management Committee.

This committee is co-chaired by the Manager, Program Planning Division, Conservation Service, PFRA, and the Provincial Manager of the Canada-Saskatchewan Agreement on Soil Conservation, respectively representing the federal and provincial governments.

Federal representation on the Implementation Committee includes the Head of Conservation Development and Program Management, PFRA; the Head of Saskatchewan Soil Survey, Agriculture Canada; a research scientist with Agriculture Canada; a Senior Soil Conservationist, PFRA, and the Senior Development and Assessment Officer, Western Economic Diversification Canada.

Provincial representation includes the Provincial Save Our Soils Coordinator; the Manager, Special Projects, Lands Branch, Saskatchewan Rural Development; a Soils and Crops Agrologist, Extension Service, Saskatchewan Rural Development; the Supervisor of Habitat, Wildlife Branch, Saskatchewan Parks and Renewable Resources; a Regional Coordinator with the Agriculture Development Fund; and a Regional Manager, Saskatchewan Water Corporation.

Membership on the Implementation Committee also includes representation from the Saskatchewan Soil Conservation Association, a producer-based non-governmental organization promoting soil conservation, and Ducks Unlimited Canada, a non-governmental organization concerned about waterfowl habitat issues.

The Implementation Committee is responsible for the development, delivery and coordination of programs under the Agreement. It is also responsible for other related activities, including monitoring and evaluation of programs, updating work plans, and reporting to the Agreement Management Committee.

To deal with the day-to-day administrative details of the various components of the Agreement, an informal working group has been created from Implementation Committee members.

Save Our Soils Steering Committee

Producer input into a major on-farm component of the Canada-Saskatchewan Agreement on Soil Conservation, the Save Our Soils Program, is obtained through a steering committee. Soil conservation proposals put forward by the Agriculture, Development and Diversification (ADD) Boards, the first level of access to the Save Our Soils Program, are reviewed by this producer-government steering committee, which then makes recommendations on programs and project funding.

The Save Our Soils Steering Committee Membership includes one producer member from each of the six Agriculture, Development and Diversification Board Regional Councils; the Manager of Program Planning, Conservation Service, PFRA; the Provincial Manager of the Canada-Saskatchewan Agreement on Soil Conservation; and non-voting members that include the Provincial Soil Conservation Specialist, the PFRA Senior Soil Conservationist, the Executive Manager of the Saskatchewan Soil Conservation Association and a representative from the Saskatchewan Agriculture Development Fund.

Field signs identify soil conservation demonstrations throughout the province.

Regional Conservation Teams

A major objective of the Agreement was to implement a process of integrated resource planning — a multi-disciplinary approach that calls for the close cooperation of a number of organizations and producers in the development and implementation of soil conservation strategies. This approach has been very successful, and as a result, six Regional Conservation Teams are coordinating regional activities throughout Saskatchewan. Regional Conservation Teams (RCTs) pool the expertise of a number of organizations and agencies — at the local level — for the purpose of developing local management plans and implementing soil conservation practices. RCTs developed a conservation plan for each agricultural region of Saskatchewan. Regional plans were then coordinated into a provincial plan to ensure that conservation efforts reflected not only local needs, but the needs of the entire province.

Local producer involvement in the development and delivery of conservation programs is also a major objective of the Agreement, and has been achieved primarily through the Agriculture, Development and Diversification (ADD) Boards in each of Saskatchewan's 43 agricultural districts. Each ADD Board works with a Saskatchewan Rural Development Extension Agrologist and producers in its district in implementing a local conservation plan.

Once again in 1990-91, producers, conservation groups and staff from all levels of government worked together for soil conservation. We are proud of the spirit of cooperation and of the substantial accomplishments it has produced over the two years of the initiative.

Communications Committee

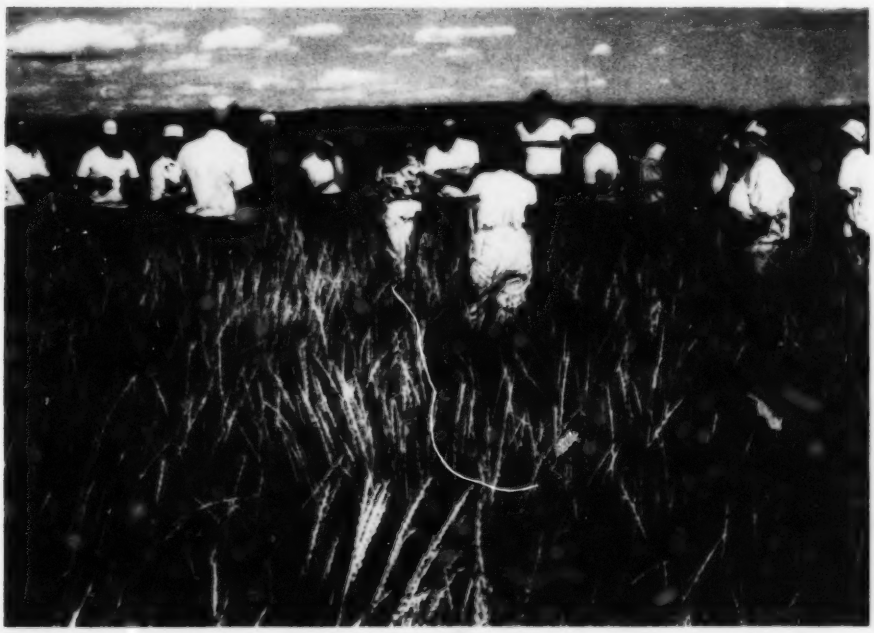
The Implementation Committee also established a Communications Committee, with membership from participating federal and provincial agencies, to coordinate all communications-related activities under the Agreement.

Implementation of the Agreement

A comprehensive set of programs has been established under the Canada-Saskatchewan Agreement on Soil Conservation to address the soil-related conservation needs of Saskatchewan. These programs focus on five main areas of activity: on-farm soil conservation, land use adjustment, awareness and education, soil inventory and monitoring, and research and development.

On-Farm Soil Conservation

The Save Our Soils program provides on-farm incentives, local organization assistance and technical support to promote soil conservation. It is jointly implemented by Agriculture Canada - PFRA, and Saskatchewan Agriculture and Food - Agriculture Development Fund.



Producers in Crystal Lake discuss merits of producing perennial grasses on eroded land.

The Save Our Soils Program has four main objectives:

- to promote soil management practices which reduce wind and water erosion, salinization and organic matter depletion
- to increase producers knowledge of soil conservation practices and the quality of our soil resource
- to reduce the off-farm environmental impacts and costs of soil degradation
- to promote co-operation among interested soil conservation, wildlife and environmental agencies and other groups in an effort to enhance Saskatchewan's rural environment

Local participation is a key component in the effective development and delivery of soil conservation programs. Technical, material and financial assistance available through the Save Our Soils (SOS) program is delivered via 43 Agriculture, Development and Diversification (ADD) Boards that have been incorporated throughout the province.

Each ADD Board is participating in the SOS Program through the development of a district soil conservation plan which has been reviewed and approved by the SOS Steering Committee, and approved by the Implementation Committee on the advice of the Steering Committee.

Producers, farm partnerships and farm corporations have accessed the program and the available funding through their local ADD Boards by submitting an application outlining the conservation demonstrations they wish to undertake to reduce soil degradation. Typical SOS demonstrations include extended crop rotations, residue management systems, forage establishment on erodible or saline land, contour strip cropping, wildlife shelterbelt establishment, grass or annual barriers, field shelterbelts and other special soil

conservation or wildlife habitat projects. ADD Boards provided funding for over 3,200 on-farm demonstration sites in 1990-91. Some 1888 miles of field shelterbelts were planted and an additional 840 miles were maintained.

Regional Conservation Teams provided technical, diagnostic and advisory services to ADD Boards throughout 1990-91.

Local conservation groups have also been involved in the SOS Program. Under the terms of the Agreement, ADD Boards may choose to delegate administrative responsibilities for certain elements of the program to local organizations within their districts. A number of non-government organizations participated in the SOS Program in this capacity in 1990-91.

The response to the Save Our Soils Program was very good in 1990-91. Financial assistance was provided to ADD Boards in 1990-91 to offset staffing and administrative costs associated with implementing the SOS Program, and to help farmers, via ADD Boards, to recover some of the costs involved in introducing new soil conservation practices.

In the 1990-91 fiscal year, Saskatchewan Agriculture Development Fund signed funding agreements with all 43 ADD Boards. Funding in the amounts of $671,955 and $922,460 was provided for staffing and administration, and shelterbelts respectively, for a total amount of $1,594,415 for the 1990-91 fiscal year. Saskatchewan Parks and Renewable Resources contributed funds for wildlife shelterbelt plantings. Saskatchewan Agriculture and Food, and Saskatchewan Rural Development provided technical support for the Save Our Soils Program.

Agriculture Canada-PFRA entered into contribution agreements with each of the 43 ADD Boards in 1990-91. ADD Boards received a total of $2,604,700 to implement their conservation demonstration program. Further on-farm incentives were provided through the Saskatchewan Indian Agriculture Program and the Wheatland Conservation Association, with a total of $191,200 and $172,800 spent respectively on soil conservation practices and salinity investigations. In addition, a total of $504,000 was provided for technical assistance to ADD Boards in 1990-91, for an aggregate 1990-91 federal expenditure of $3,108,700 for the SOS Program. All funding for federal on-farm incentives was provided by Western Economic Diversification Canada.

Both the federal and provincial governments provided material assistance. Specialized conservation equipment for use in field demonstrations was made available for rent or purchase to ADD Boards. The PFRA Shelterbelt Centre provided 6.644 million seedlings for field shelterbelts.

Land Use Adjustment

The second component under the Canada-Saskatchewan Agreement on Soil Conservation is

Almost two thousand Saskatchewan producers received assistance under the Permanent Cover Program representing 166,000 acres being converted from annual crop production to perennial forages.

land use adjustment. This component addresses the significant portion of Saskatchewan's land base that is considered to be marginal or at high risk to soil erosion. Approximately $17.5 million has been allocated to the land use adjustment component over three years.

The major initiative in land use adjustment in 1990-91 was the Permanent Cover Program (PCP). This program is being delivered by the federal government through the Prairie Farm Rehabilitation Administration over a three year period.

The Permanent Cover Program is designed to encourage landowners to convert high-risk marginal land from annual crop production to perennial forage, tree cover or other permanent cover that will protect it against degradation.

Two options are available under the Permanent Cover Program.

Under Option A, producers who annually cultivate marginal land can apply for financial assistance to convert the land to permanent vegetation or forage production for a 10 or 21 year period.

Under Option B, legally incorporated groups may apply for assistance to purchase marginal land and convert it to an alternate use such as wildlife habitat or recreation for a 10 or 21 year period.

The response to the Permanent Cover Program was overwhelming and funds were fully committed in the first year (1989-90). Approximately 3,200 Option A applications for approximately 260,800 acres were received. Of these, 1,948 applications representing 166,972 acres were accepted. Approximately 40 per cent of the approved applications were for 10-year land use agreements, and the remaining 60 per cent were for 21-year agreements.

Because of the popularity of the program in the first year of its implementation, the total three-year Option A budget was already allocated in 1989-90, and producers were advised that no applications would be considered after December 1, 1989.

Permanent Cover Program expenditures in 1990-91 totalled $3,050,300 for Option A and $12,300 for Option B for an aggregate federal expenditure of $3,062,600. The majority of Permanent Cover Program funds will be dispersed in subsequent years after forages are established and land use contracts are signed.

Provincial funds in the amount of $256,330 were spent in the Land Use Adjustment component of the Agreement in 1990-91. Saskatchewan Environment and Public Safety conducted a land use study in the Great Sand Hills. Saskatchewan Water Corporation conducted a project to reduce the spread of salinity in the South Saskatchewan River Irrigation District.

Some wetland conservation initiatives are complementary to the Permanent Cover Program.

Awareness and Education

Approximately $3.6 million has been allocated to increasing the awareness and knowledge of soil conservation among producers and the general public over the lifetime of the three-year Canada-Saskatchewan Agreement on Soil Conservation.

Joint federal and provincial awareness and communication activities in 1990-91 included the development, publication and distribution of a soil conservation "TipKit", containing a monthly calendar of soil conservation practices. In addition, print and radio advertising were undertaken to promote soil conservation practices and the availability of the "TipKit" package. Activities also included the development and distribution of related application forms and procedures to ADD Boards, Rural Service

Centres, municipalities and producers. Additional brochures were developed relating to forage selection, establishment and management. In addition, a householder newspaper entitled "Land for the Future" was distributed to all Saskatchewan households in March 1991.

Federal Awareness and Education expenditures totalled $385,100 during the 1990-91 fiscal year. While most federal activities in this area are being undertaken by PFRA's Conservation Service, some initiatives are also being implemented by the Communications Branch, Agriculture Canada. During 1990/91, these activities included preparation and distribution of a national soil conservation poster and assisting with the printing costs of the soil conservation newspaper which was sent to all households in the prairie provinces.

Brochures are being distributed to update producers on forage production.

Awareness and Education expenditures undertaken by the province in 1990-91, on behalf of the Agreement, totalled $1,798,274. Included in the Provincial Awareness and Education component are contracts with a producer organization, the Saskatchewan Soil Conservation Association (SSCA), to deliver Awareness and Education programs on behalf of the province. The SSCA received funding of $1,394,654 through the provincial Agriculture Development Fund in 1990-91. The SSCA has employed professional staff to provide these services. Regional staff members serve on the Regional Conservation Teams. Another component of the Provincial Awareness and Education Program is a contract with the Saskatchewan Stock Growers Association to deliver the new Pasture Grazing and Technology Program. The Agriculture Development Fund provided $195,760 in funding for this contract. Saskatchewan Parks and Renewable Resources carried out awareness and education activities related to wildlife issues.

Soil Inventory and Monitoring

Approximately $3.6 million has been allocated to the Soil Inventory and Monitoring component of the Agreement. Under this component, a series of studies were initiated by Agriculture Canada Soil Survey including establishment of sites to collect baseline data on soil quality and to monitor soil degradation, development of a set of criteria and standards for evaluating soil quality, and development of a computerized land use monitoring system and computerized models for predicting various types of soil degradation.

The primary focus of the survey component of the Canada-Saskatchewan Agreement on Soil Conservation is the completion of a detailed survey and description of Saskatchewan soils, and development of a system to monitor soil quality changes over time.

The Saskatchewan Institute of Pedology, contracted to conduct the survey work and document this vital information, carried out mapping and interpretive work within nine rural municipalities in southwestern Saskatchewan and mapped approximately 2.5 million acres in 1990-91.

Provincial expenditures through the Agriculture Development Fund under the Agreement for soil survey activity from April 1, 1990 through March 31, 1991 totalled $803,530. Federal expenditures totalled $375,000.

A national Soil Quality Evaluation Program that integrates the resources of various branches of Agriculture Canada, the provinces, and universities across the country was undertaken in 1990-91. Federal expenditures for soil quality monitoring

totalled $232,300 in 1990-91. The main activities of the monitoring program in Saskatchewan related to establishment of soil quality benchmark sites, validation of research models for wind erosion and organic matter prediction, selection of soil salinity monitoring sites, identification of a site to measure change to soil porosity, and development of a comprehensive bibliography of the impact of soil degradation on crop yield for the prairie region.

Through the National Soil Quality Evaluation Program monitoring sites have been set up to observe soil salinity and to estimate soil loss on a field basis.

Research and Development

The final major component of the Canada-Saskatchewan Agreement on Soil Conservation is research and development. Approximately $5.6 million has been allocated to this component to introduce new research efforts into soil conservation, and to expand and extend ongoing research activities so that practical soil management technology can be applied at the farm level.

The provincial commitment to research in 1990-91 was provided through the Agriculture Development Fund (ADF). ADF provided funding to government, university and private researchers to carry out research related to soil conservation in areas such as

Through the Agreement research is being carried out on conservation tillage.

water efficiency, fertility, conservation tillage, and biological technologies. Funding was also provided for projects to demonstrate research in the field. Provincial (ADF) funding for research and development totalled $2,198,700 during 1990-91.

Federal expenditures in Research and Development totalled $202,000 in 1990-91. Initiatives included monitoring organic matter additions and soil organic matter levels, evaluating the effect of erosion and cultivation on soil quality and productivity, studying the effect of long-term rotations on deep leaching of nitrates, and determining the magnitude, transport and deposition of selected herbicides.

Summary

Substantial progress was made in 1990-91 through the Canada-Saskatchewan Agreement on SoilConservation. Expenditures in this second year of operation totalled $14,533.90. The governments of Canada and Saskatchewan jointly administer the agreements and are each contributing a total of $27 million.

Soil conservation practices benefit the survival of wildlife habitat.

The aim of the Canada-Saskatchewan Agreement on Soil Conservation is to encourage practices which conserve Saskatchewan's soil resource and sustain its long-term productivity, recognizing soil capability and practical economic limits. The agreement promotes soil conservation through a range of methods: On-Farm Soil Conservation, Land Use Adjustment, Awareness and Education, Soil Inventory and Monitoring, and Research and Development. Many of the agreement's initiatives support projects developed locally to meet local needs and concerns.

The Save Our Soils Program focuses on demonstration of proven soil conservation activities through financial incentives to farmers. During 1990-91, 43 Agriculture, Development and Diversification (ADD) Boards parti-cipated in the delivery of the program. More than 3,200 on-farm projects were initiated in 1990-91. In 1990-91, over 6.644 million shelterbelt seedlings were distributed to producers for field shelterbelt establishment to reduce erosion, conserve soil moisture and improve wildlife habitat.

The Permanent Cover Program provided over $3.0 million in 1990-91 to landowners to remove land which is marginal, due to excessive soil erosion or salinity, from annual crop production. Placing these lands under some form of permanent cover, such as perennial forage crops, protects the soil from further degradation. A total of 1,948 producers were approved to participate in the program and 60% of these chose the program's option of a long-term conversion (21 year) to permanent cover.

In addition to its many producer driven technology transfer activities, the agreement supported initiatives to foster a conservation ethic in Saskatchewan. Advertisements and a province-wide newspaper insert helped the general public understand the importance of soil conservation.

Much progress was made in 1990-91 in soil inventory, monitoring and research. The Saskatchewan Institute of Pedology carried out mapping and interpretive work within nine rural municipalities in southwestern Saskatchewan and mapped approximately 2.5 million acres. Soil quality benchmark sites were established at various sites across Canada through the monitoring program. Research initiatives were undertaken and completed through the Saskatchewan Agriculture Development Fund, University of Saskatchewan, and Agriculture Canada Research Branch.

Throughout its second year, the Canada-Saskatchewan Agreement on Soil Conservation continued to facilitate a wide range of approaches to promote and encourage soil conservation. It supported producer-driven efforts, and augmented and increased the activities of three levels of government. These cooperative efforts, involving producers, agribusiness and government will help conserve soil resources to ensure the sustainability of our agricultural industry.

Appendix A

Canada-Saskatchewan Agreement on Soil Conservation

1990-91 Expenditure Summary to March 31, 1991

Activity	Provincial Expenditure (1000's)	Federal Expenditure ($1000's)	Total
1. On-Farm Incentives, Local Organizations and Technical Support			
- Incentives	$1594.4	$2968.7	$4563.1
- Technical Support	153.0	504.0	657.0
2. Land Use Adjustment			
- Permanent Cover Program	-	3062.6	3062.6
- Other	256.3	-	256.3
3. Awareness and Education	1798.3	385.1	2183.4
4. Soil Inventory and Monitoring	803.5	607.3	1410.8
5. Research	2198.7	202.0	2400.7
Total	**$6,804.20**	**$7,729.70**	**$14,533.90**